

BUILDING AMERICA'S LEADING LITHIUM HYDROXIDE BUSINESS

 Nasdaq:PLL

 ASX:PLL

ARBN 647 286 360

August 2021

LiOH

DISCLAIMERS

Forward Looking Statements

This presentation contains forward-looking statements within the meaning of or as described in securities legislation in the United States and Australia, including statements regarding exploration, development and construction activities; current plans for Piedmont's mineral and chemical processing projects (including its partners); projections of market demand and prices; statements about the timing and amount of reserve and resource declarations and our chemical processing operations; strategy; value; returns; capital allocation and investment; expectations regarding permitting; costs and expenses; and statements about the timing and ability to complete scoping studies and feasibility studies.

Such forward-looking statements involve substantial and known and unknown risks, uncertainties and other risk factors, many of which are beyond our control, and which may cause actual timing of events, results, performance or achievements and other factors to be materially different from the future timing of events, results, performance or achievements expressed or implied by the forward-looking statements. Such risk factors include, among others: (i) that Piedmont will be unable to commercially extract mineral deposits, (ii) that Piedmont's properties may not contain expected reserves, (iii) risks and hazards inherent in the mining business (including risks inherent in exploring, developing, constructing and operating mining projects, environmental hazards, industrial accidents, weather or geologically related conditions), (iv) uncertainty about Piedmont's ability to obtain required capital to execute its business plan, (v) Piedmont's ability to hire and retain required personnel, (vi) changes in the market prices of lithium and lithium products, (vii) changes in technology or the development of substitute products, (viii) the uncertainties inherent in exploratory, developmental and production activities, including risks relating to permitting, zoning and regulatory delays, (ix) uncertainties inherent in the estimation of lithium resources, (x) risks related to competition, (xi) risks related to the information, data and projections related to Sayona Quebec and IronRidge Resources, (xii) occurrences and outcomes of claims, litigation and regulatory actions, investigations and proceedings, (xiii) risks regarding our ability to achieve profitability, enter into and deliver product under supply agreements on favorable terms, our ability to obtain sufficient financing to develop and construct our projects, our ability to comply with governmental regulations and our ability to obtain necessary permits, and (xiv) other uncertainties and risk factors set out in filings made from time to time with the U.S. Securities and Exchange Commission ("SEC") and the Australian Securities Exchange, including Piedmont's most recent filings with the SEC. The forward-looking statements, projections and estimates are given only as of the date of this presentation and actual events, results, performance and achievements could vary significantly from the forward-looking statements, projections and estimates presented in this presentation. Readers are cautioned not to put undue reliance on forward-looking statements. Piedmont disclaims any intent or obligation to update publicly such forward-looking statements, projections and estimates, whether as a result of new information, future events or otherwise. Additionally, Piedmont, except as required by applicable law, undertakes no obligation to comment on analyses, expectations or statements made by third parties in respect of Piedmont, its financial or operating results or its securities.

Cautionary Note to United States Investors Concerning Estimates of Measured, Indicated and Inferred Resources

The Carolina Lithium Project Mineral Resource of 39.16Mt @ 1.09% comprises Indicated Mineral Resources of 21.55Mt @ 1.12% Li₂O and Inferred Mineral Resources of 17.61Mt @ 1.03% Li₂O. Because Piedmont is listed on the Australian Securities Exchange, the information contained in this presentation has been prepared in accordance with the requirements of the securities laws in effect in Australia, which differ from the requirements of U.S. securities laws. The terms "mineral resource", "measured mineral resource", "indicated mineral resource" and "inferred mineral resource" are Australian terms defined in accordance with the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code"). Comparable terms are now also defined by the SEC in its newly adopted Modernization of Property Disclosures for Mining Registrants as promulgated in its S-K 1300 standards. While the guidelines for reporting mineral resources, including subcategories of measured, indicated, and inferred resources, are largely similar for JORC and S-K 1300 standards, documentation is ongoing with respect to the S-K 1300 Technical Report Summary template to formally categorize Piedmont's mineral holdings as both JORC and S-K 1300 compatible. While the competent persons responsible for this announcement do not foresee any challenges in categorizing the resources delineated in this announcement as S-K 1300 compliant, information contained herein that describes Piedmont's mineral deposits is not fully comparable to similar information made public by U.S. companies subject to reporting and disclosure requirements under the U.S. federal securities laws and the rules and regulations thereunder. U.S. investors are urged to consider Piedmont's disclosure in its SEC filings, copies of which may be obtained from Piedmont or from the EDGAR system on the SEC's website at www.sec.gov.

PIEDMONT AT A GLANCE

Building America's Leading Source of Lithium Hydroxide to Power the Electric Vehicle Transition

| | |
|---|---|
|  | An American company – based in Gaston County, NC |
|  | Strategic lithium assets in three critical locations |
|  | Only U.S. integrated spodumene-to-hydroxide project |
|  | ~40% interest in one of Canada's largest lithium projects |
|  | Earning 50% of Africa's best-located lithium project |
|  | Industry-leading ESG profile |
|  | Strong balance sheet to advance projects |

CORPORATE SNAPSHOT

PIEDMONT LITHIUM INC.



| | | |
|---------------------------------------|---------|------------|
| Shares / CDIs (100 CDIs = 1 Share) | 15.85 M | 1,584.7 M |
| Price (@ 7/30/21) | \$55.06 | A\$0.74 |
| Average Daily Trading Volume (30-day) | \$24 M | A\$4 M |
| Market Cap (@ 7/30/21) | \$873 M | A\$1,165 M |
| Cash (6/30/21 Estimate) | \$143 M | A\$194 M |

BOARD OF DIRECTORS

| | | |
|-----------------|-----------|-----------------|
| Jeff Armstrong | USA | Chairman |
| Keith Phillips | USA | President & CEO |
| Jorge Beristain | USA | Director |
| Claude Demby | USA | Director |
| Todd Hannigan | Australia | Director |
| Susan Jones | Canada | Director |

RESEARCH COVERAGE

J.P.Morgan

EVERCORE ISI

CANACCORD Genuity

B RILEY Securities

ROTH Capital Partners

Loop Capital

BTIC

TUOHY BROTHERS
INVESTMENT RESEARCH INC.

Clarksons Platou
Securities

D|A DAVIDSON

2021 ACCOMPLISHMENTS

Scoping Update for Carolina Lithium¹

- 30,000tpy LiOH production
- \$1.9bb after-tax NPV and 31% after-tax IRR
- \$400mm steady-state EBITDA
- DFS targeted for H2 2021
- State permitting and local rezoning processes formally commenced

Strategic Initiatives

- Acquired 39.6% economic interest in Sayona Quebec
 - Inclusive of North American Lithium, Canada’s largest lithium project
- Acquiring 9.5% of IronRidge Resources and earning up to 50% of IRR’s Ghana lithium assets
 - High-grade spodumene concentrate for export to North America
- Investments underpin strategy to grow lithium hydroxide production on a staged basis

Executive Appointments

- David Klanecky appointed as COO
 - Former head of Albemarle’s industry-leading hard rock lithium business
- Michael White appointed as CFO
- Several senior engineering professionals joined

Corporate

- Redomiciled to become a U.S. company
- Raised \$122mm equity in March 2021
- Appointed Evercore and JPMorgan to seek strategic partners to fund Carolina Lithium Project

PROVEN LEADERS



Keith Phillips

Chief Executive Officer

30+ years advisory & financing experience with JPMorgan, Merrill Lynch and Goldman Sachs



Patrick Brindle

Chief Development Officer

20+ years project global project development experience



Michael White

Chief Financial Officer

25+ years experience; most recently Chief Accounting Officer of Apergy Corporation



Bruce Czachor

Chief Legal Officer

30+ years legal experience and former partner of Shearman & Sterling



Brian Risinger

Chief Communications Officer

25+ years IR and media; most recently with Sonoco



Malissa Gordon

Community & Government Relations

13+ years at Gaston County Economic Development Board



David Klanecky

Chief Operating Officer

25+ years lithium and chemical industry experience; former head of hard rock lithium hydroxide at Albemarle



Austin Devaney

Chief Marketing Officer

Former head of lithium sales for Albemarle



Lamont Leatherman

Chief Geologist

25+ years geology experience; discovered the Carolina Lithium Project



Binh Meador

Senior Project Manager - Chemical Ops

20+ years chemical engineering experience; most recently with Fluor



Jim Nottingham

Senior Project Manager - Concentrate Ops

30+ years mining construction and concentrator operations



Pratt Ray

Production Manager - Chemical Ops

30+ years experience in lithium chemical production; most recently at Livent



David Buckley

Advisor - Process Engineering

25+ years lithium conversion experience; ex-Livent and Albemarle

WORLD-CLASS TECHNICAL PARTNERS

PRIMERO

Metso:Outotec



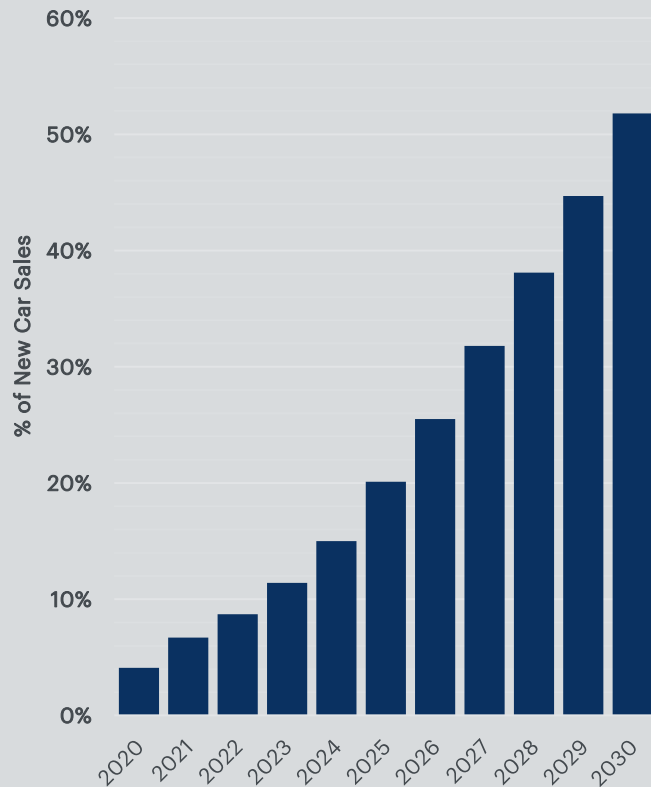
SGS

HR

MINVIRO

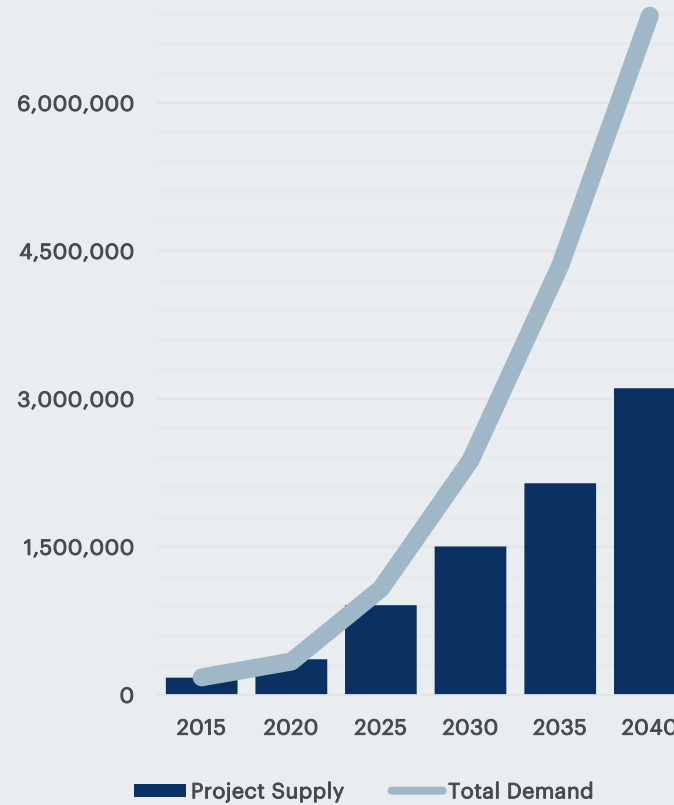
LITHIUM MARKET OUTLOOK

EV PENETRATION



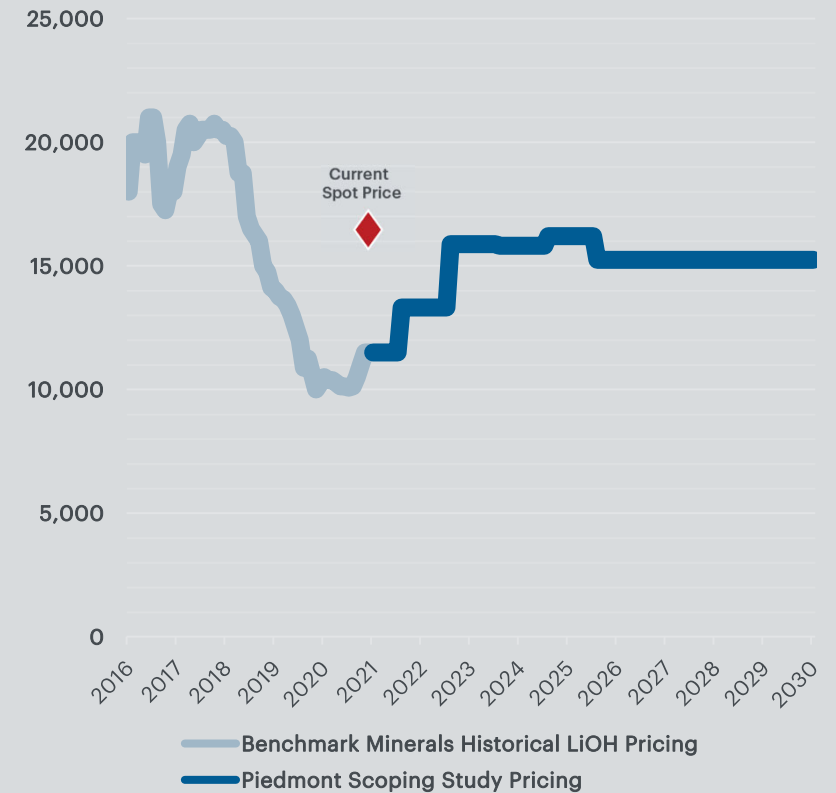
Source: Bloomberg New Energy Finance
<https://about.bnef.com/blog/behind-scenes-take-lithium-ion-battery-prices>

SUPPLY SHORTFALLS EXPECTED (MT)



Source: Benchmark Mineral Intelligence – Lithium Forecast, Q1 2021

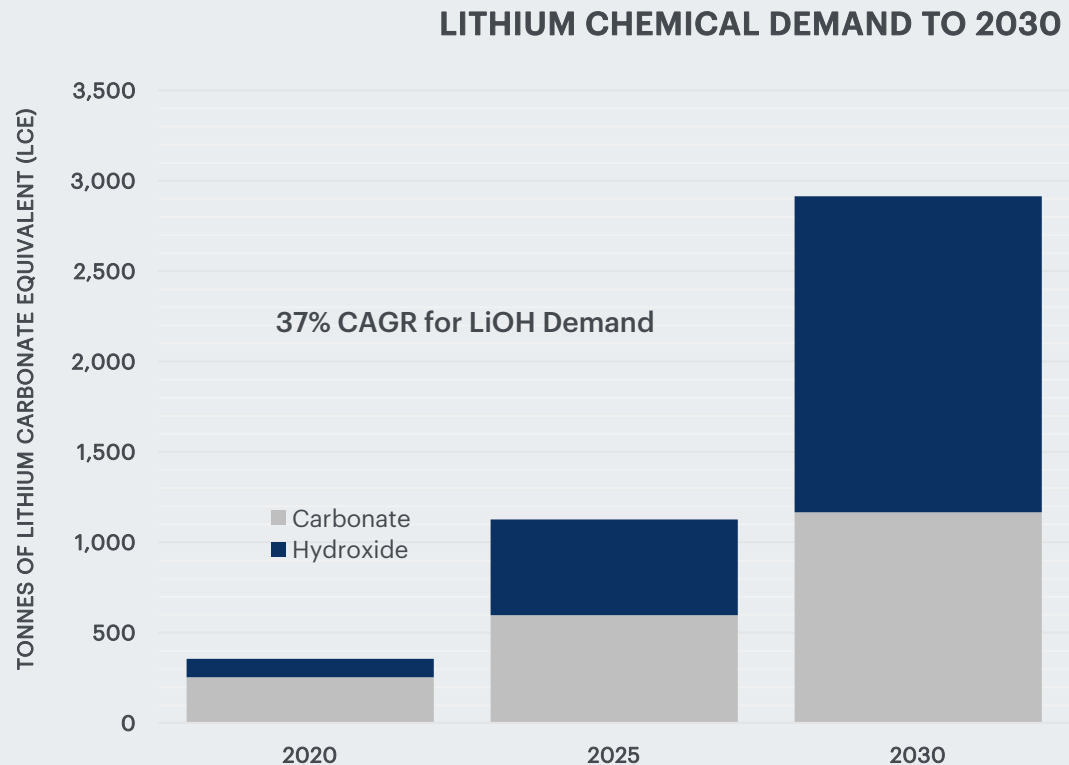
BATTERY GRADE LITHIUM HYDROXIDE PRICES (US\$/MT)



Source: Historical prices – Benchmark Mineral Intelligence
 Forecasted prices – Consensus estimates
 Current spot price - \$16,500 per Platts Battery Metals – July 23, 2021

THE RIGHT LITHIUM MATERIALS

LiOH TAKING MARKET SHARE



SC6 THE PREFERRED FEEDSTOCK

“Lithium extracted from mining ... is more stable to extract, easier to scale and generally more sustainable.”

Volkswagen – April 2019

“BMW signs contract with Ganfeng for sustainable lithium from mines in Australia.”

BMW – November 2019

OUR PROJECTS



CAROLINA LITHIUM (100% OWNERSHIP)



| Project | Carolina Lithium |
|-----------------------|---------------------------------------|
| Location | Gaston County, North Carolina |
| Phase 1 Project Stage | Scoping (DFS – H2 2021) |
| Mineral Resources | 39.2Mt @ 1.09% Li ₂ O |
| Production | 30,000tpy LiOH; 248,000tpy SC6 |
| Economics | \$1.9bb NPV; ~\$400mm run-rate EBITDA |

SAYONA QUEBEC (~39.6% ECONOMIC INTEREST¹)



| Project | Authier + La Corne |
|------------------------|---|
| Location | Abitibi Region, Quebec |
| Project Stage | DFS to be updated in 2022 |
| Mineral Resources | 68.0Mt @ 1.14% Li ₂ O ² |
| Production / Economics | TBD |

IRONRIDGE GHANA (EARNING UP TO 50% PROJECT INTEREST³)



| Project | Ewoyaa |
|-------------------|---|
| Location | Cape Coast, Ghana |
| Project Stage | Scoping + Exploration |
| Mineral Resources | 14.5Mt @ 1.31% Li ₂ O ⁴ |
| Production | 295,000tpy SC6 (50% to PLL) ⁵ |
| Economics | \$345mm NPV; \$68mm capex ⁵ |

- 1: Piedmont owns a 25.0% interest in Sayona Quebec and a 19.5% stake in Sayona Mining, resulting in an effective economic interest of 39.6%.
- 2: Pro-forma 68.0Mt @ 1.14% Li₂O based on Sayona Quebec MRE of 20.94Mt @ 1.01% Li₂O announced on 24 September 2018 and North American Lithium MRE of 47.0Mt @ 1.19% Li₂O announced by Canada Lithium Corp. effective 12 October 2012 and available at www.sedar.com.
- 3: Piedmont can earn a 50% interest in IronRidge's Ghanaian lithium portfolio and will subscribe for a 9.47% stake in the parent company.
- 4: Refer to IronRidge Resources AIM announcement dated 28 January 2020.
- 5: Refer to IronRidge Resources AIM announcement dated 19 January 2021.

CAROLINA LITHIUM

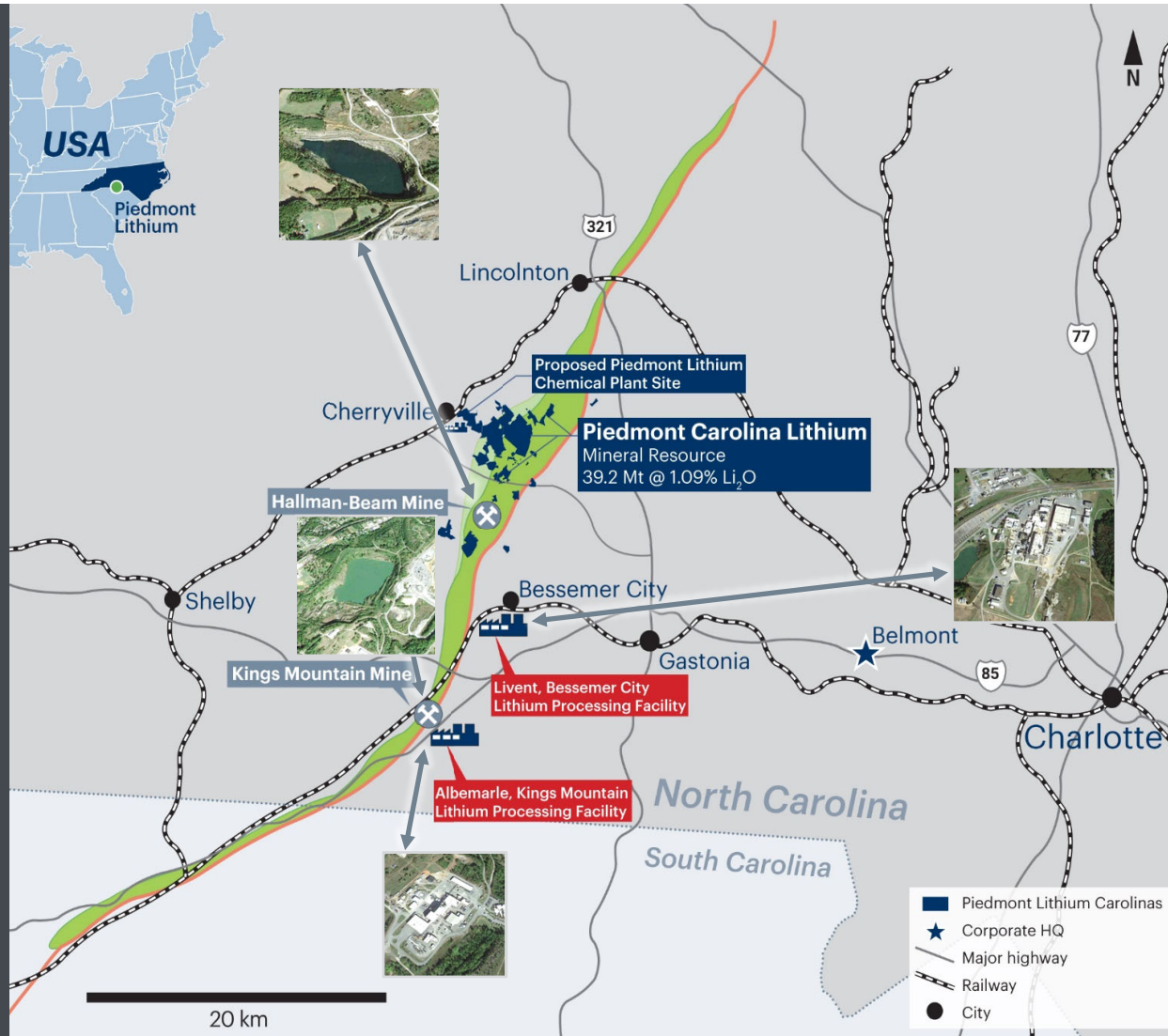


LOCATION

- Gaston County, NC
- 25 miles west of Charlotte
- 'Cradle of lithium'
- Strong infrastructure
- Single integrated site
- Skilled local labor
- Proximity to lithium and by-product markets

HIGHLIGHTS

- Large high-grade resource
- Pure spodumene mineralogy
- Industry-leading ESG profile
- Projected to be a low-cost producer



FACT SHEET¹

| | |
|----------------------------|----------------------------------|
| Location | North Carolina, USA |
| Project Stage | Scoping (DFS expected H2 2021) |
| Product | Lithium Hydroxide |
| Resources | 39.2Mt @ 1.09% Li ₂ O |
| Production | 30,000tpy LiOH |
| Feedstock | 248,000tpy SC6 |
| Capex | \$839 million |
| Opex | \$2,943/t LiOH |
| EBITDA | ~\$400mm per year run-state |
| After-tax NPV ₈ | ~\$1.9 billion |
| After-tax IRR | 31% |
| Payback | 2.9 years |

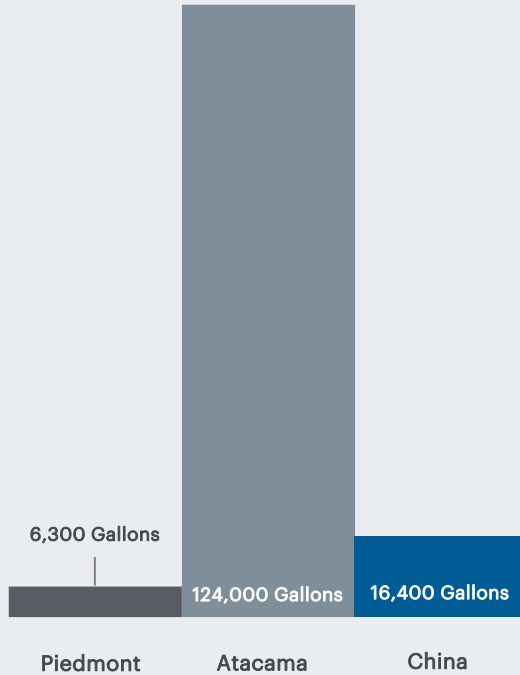
1: Refer to results of PLL Scoping Update announcement dated June 9, 2021

CAROLINA LITHIUM

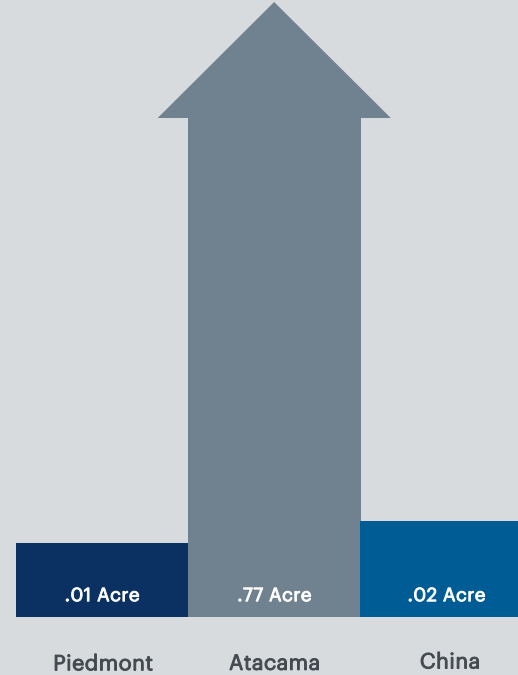
Industry-leading Sustainability Highlights



Carbon Intensity¹
Per Tonne of Lithium Hydroxide



Water Usage
Per Tonne of Lithium Hydroxide



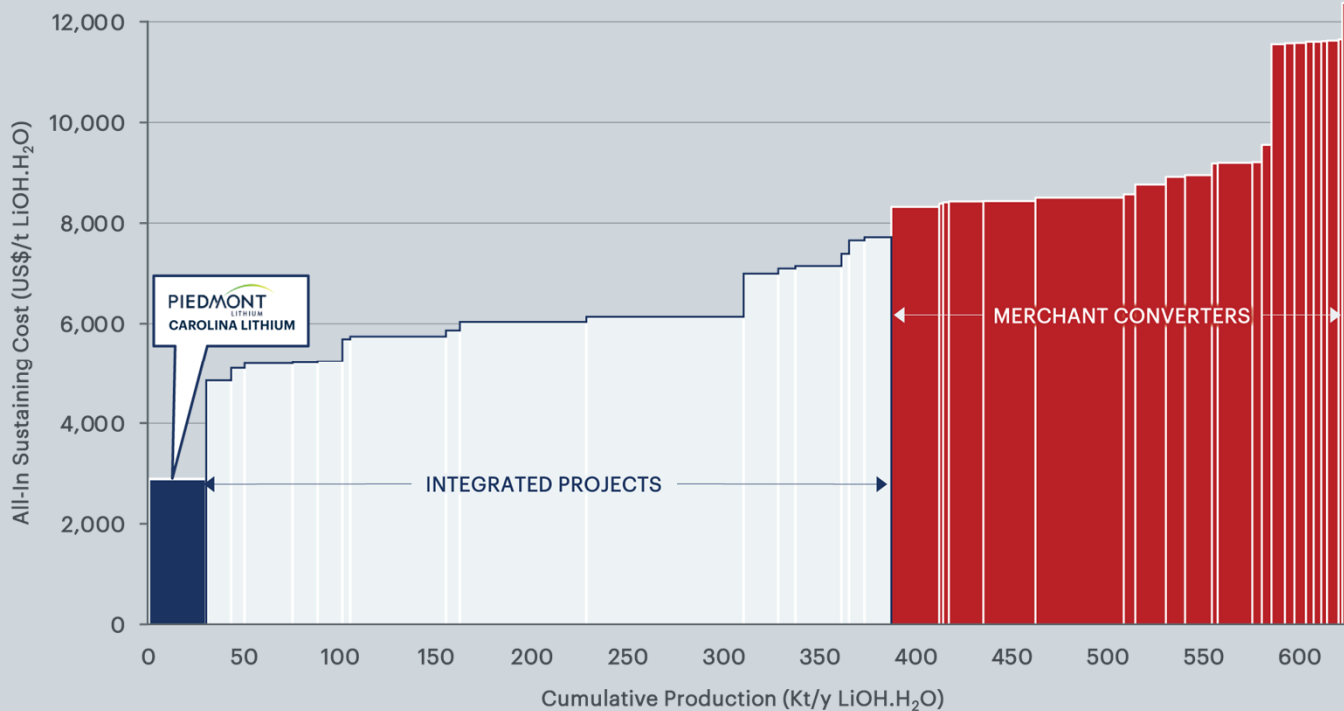
Land Footprint
Per Tonne of Lithium Hydroxide

SUSTAINABILITY BENEFITS OF CAROLINA LITHIUM PROJECT

- Vastly diminished 'quarry-to-EV' supply chain distances
- Captive solar to power most operations
- In-pit crushing and electric and covered conveying to reduce emissions
- By-product recovery minimizes waste
- Metso-Outotec flowsheet reduces CO₂ emissions and reagent usage
- Relatively low water usage and land footprint

CAROLINA LITHIUM

Integration and Location Drive Cost Advantages



Source: Roskill Lithium Cost Model Service - Extractive - 2028 Production and Cost Forecast
 All-In Sustaining Cost includes all direct and indirect operating costs related directly to the physical activity of producing lithium compounds, including mining/extraction, processing, refining and on-site general and administrative costs.

PIEDMONT VS. AUSTRALIAN PRODUCERS



North Carolina



Western Australia



PLL Advantage Per LiOH Tonne

| | North Carolina | Western Australia | PLL Advantage Per LiOH Tonne |
|---------------------------|----------------|-------------------|------------------------------|
| Personnel (US\$/y avg.) | \$90,000 | \$150,000 | \$300 |
| Electricity (kWh) | 6.0c | 17.0c | \$316 |
| Natural Gas (Gi) | \$3.68 | \$9.00 | \$130 |
| SC6 Transport (T) | \$2 | \$71 | \$483 |
| LiOH Tailing Disposal (T) | \$0 | \$50 | \$350 |
| State Royalties | 0% | 5% | \$225 |
| By-product Credits (T) | \$163 | \$0 | \$1,141 |

Source: Assumes 6.5:1 SC6:LiOH ratio. Company estimates derived from PLL Scoping Study announced on June 9, 2021.

CAROLINA LITHIUM

Advancing Project Regulatory Approvals for Development & Construction

Numerous Studies Completed

- Endangered species surveys
- Detailed cultural resources surveys
- Hydrogeological modeling
- Traffic analysis
- Stream and wetlands delineation
- Waste rock characterization

Permits Obtained to Date

- Clean Water Act Section 404 Standard Individual Permit issued by the U.S. Army Corps of Engineers
- Clean Water Act Section 401 Individual Water Quality Certificate issued by NC Division of Water Resources
- Title V Synthetic Minor Permit (Kings Mountain LiOH Site) from NC Division of Air Quality

Additional Permits Required

- NC State Mining Permit – Application planned August 2021
- NC Air Quality Permit – Gaston County Site
- NC/Gaston County – Stormwater Permits
- NC/Gaston County – Erosion Control Permits
- Gaston County – Conditional District Rezoning
- Gaston County – Watershed Protection Permit

Ongoing Communications Program

- Pre-application consultation for mining permit
- Community consultation for conditional district rezoning
- Pre-application consultation with Gaston County Board of Commissioners and staff for rezoning application
- Preparation and submittal of Conditional District rezoning application
- Public information meetings
- Ongoing communication with regulatory authorities

SAYONA QUEBEC

Piedmont Has a 39.6% Economic Interest

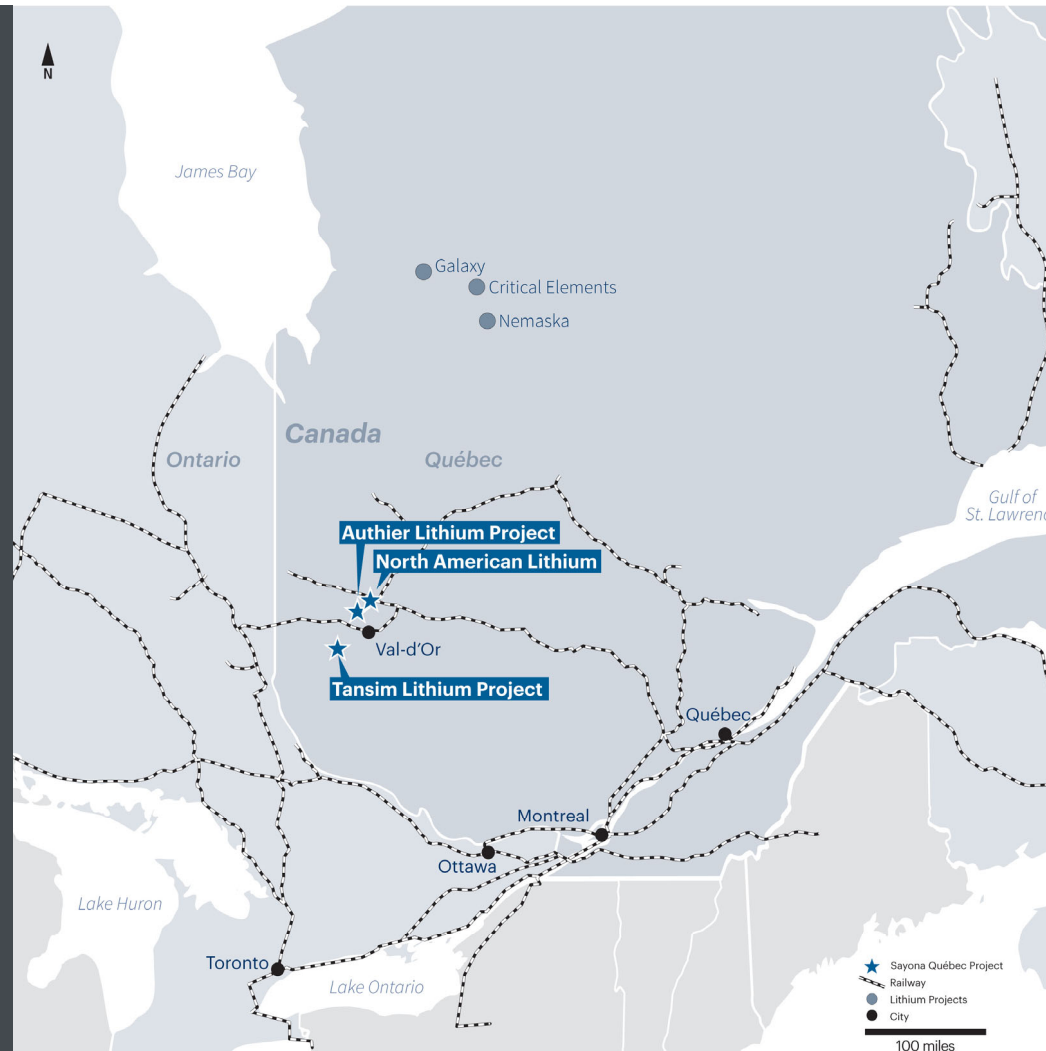


LOCATION

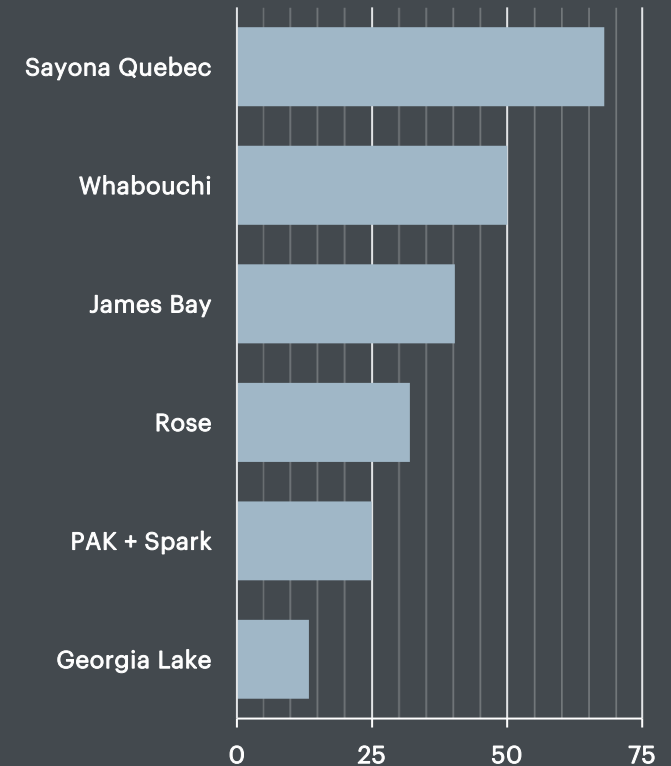
- One of Quebec's best-located lithium projects
- Close to Val-d'Or, a major mining center in Quebec's Abitibi region
- Good rail and highway infrastructure
- Skilled local labor and contractors
- Low-cost renewable hydroelectricity

HIGHLIGHTS

- North America's largest spodumene resource
- NAL is fully-permitted with \$400mm of past investment
- Authier is DFS-complete and in final stage of BAPE approval
- PLL offtake – greater of 50% of annual production or 113,000tpy SC6



Canadian Spodumene Projects¹



¹: Open-pit lithium resources (Mt) from public filings. Sayona Quebec Mineral Resources include Mineral Resources of North American Lithium

GHANA LITHIUM

Piedmont Earning Up to a 50% Project Interest

IRR

LOCATION

- Mining-friendly jurisdiction
 - 100-year mining history
- ~70 miles from major port along national highway
- Short transport to North America for hydroxide conversion
- Skilled labor pool

HIGHLIGHTS

- Shallow, high-grade resource with potential exploration upside
 - 260 square mile exploration package
- Coarse-grained spodumene implies low capex DMS flowsheet
- Adjacent hydroelectric powerlines
- Resource and scoping update expected in H2 2021



FACT SHEET¹

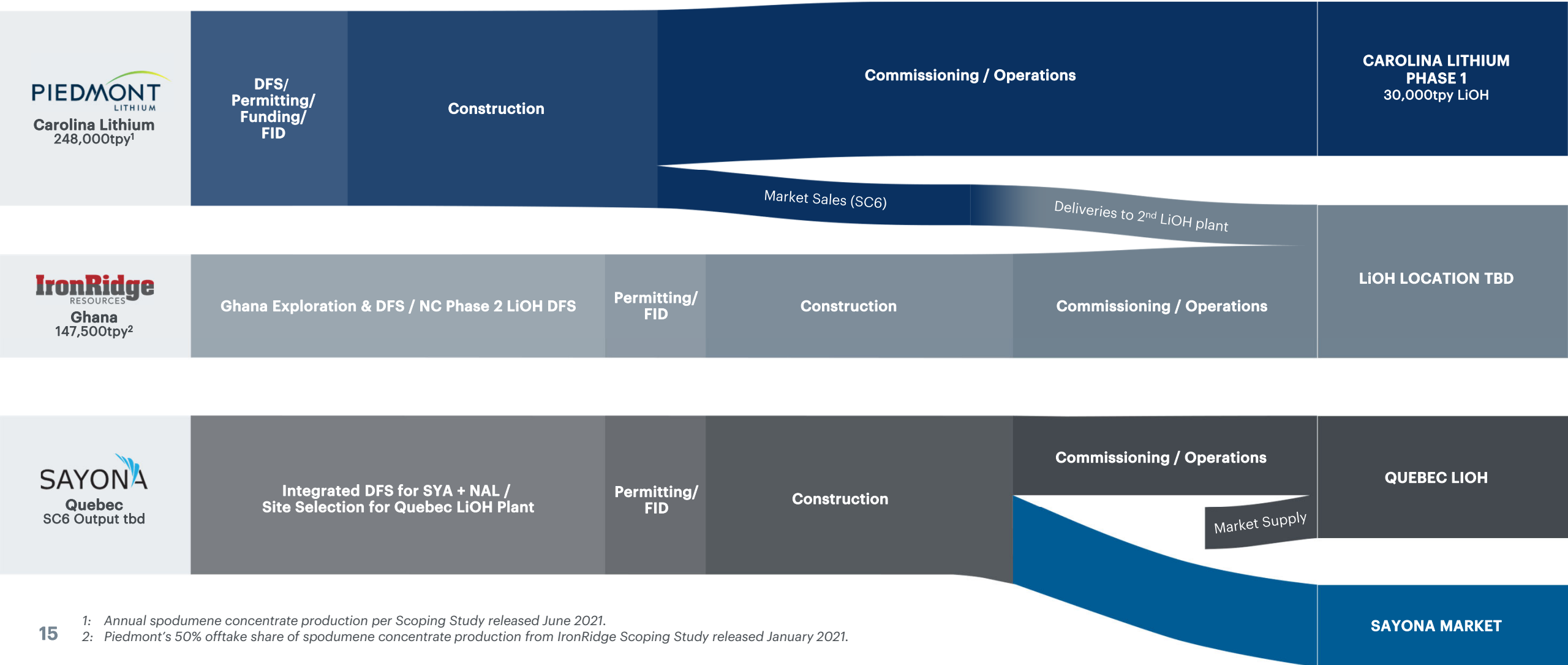
| | |
|----------------------------|----------------------------------|
| Location | Ghana |
| Project Stage | Exploration / Scoping |
| Business | Spodumene Concentrate |
| Resources | 14.5Mt @ 1.31% Li ₂ O |
| Production | 295,000tpy SC6 |
| PLL Offtake | 50% of annual production |
| DFS Timing | 2022-2023 |
| Production | 2024-2025 |
| Capex | \$68mm |
| Opex | \$247/t SC6 |
| After-tax NPV ₈ | \$345mm |
| After-tax IRR | 125% |

1: IronRidge Resources public filings.

ILLUSTRATIVE DEVELOPMENT TIMELINE

SC6

LIOH



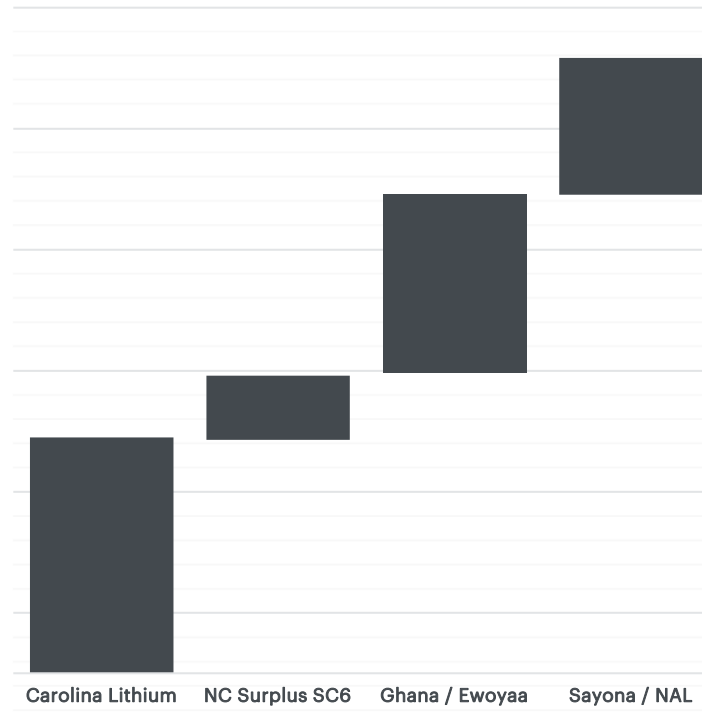
1: Annual spodumene concentrate production per Scoping Study released June 2021.
 2: Piedmont's 50% offtake share of spodumene concentrate production from IronRidge Scoping Study released January 2021.

ILLUSTRATIVE LONG-TERM GROWTH

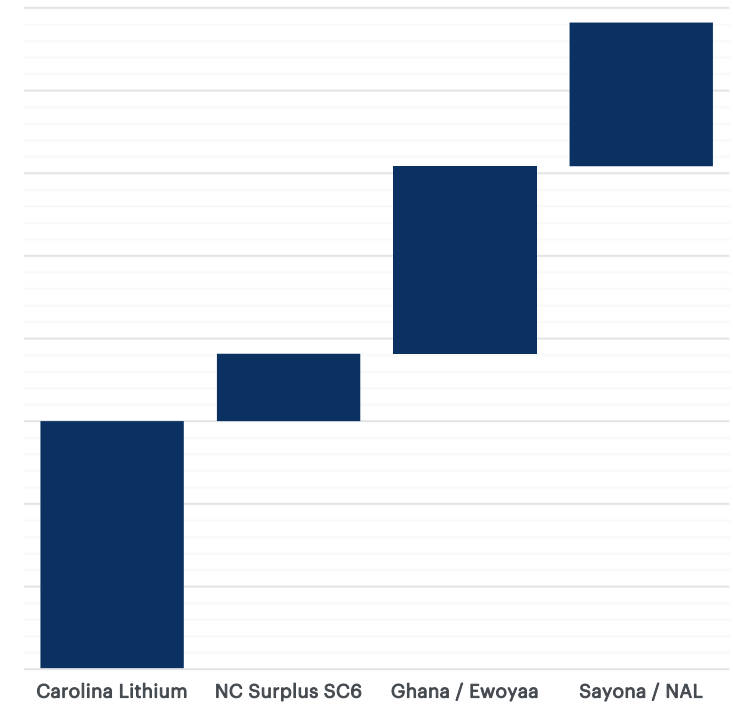
Future Hydroxide Production is a Function of Spodumene Concentrate Ownership

- Raw material supply is the basis of future lithium hydroxide production
- Piedmont maintains ownership of several sources of potential spodumene concentrate production
 - 100% ownership of Carolina Lithium
 - 248,000tpy SC6; ~195,000tpy to feed 30,000tpy LiOH plant and ~53,000tpy surplus to support future LiOH capacity
 - Ability to earn 50% ownership of IRR’s Ghana lithium business along with 50% offtake of Ghana SC6 production
 - ~40% effective economic interest in Sayona / NAL along with minimum 50% offtake for Quebec SC6 production
- Technical studies to be commenced shortly to evaluate suitable locations to expand LiOH production on a phased basis

**SPODUMENE CONCENTRATE
PLL SHARE¹**



**LITHIUM HYDROXIDE
PLL SHARE²**



1: Piedmont’s anticipated share of spodumene concentrate production based on technical studies and/or offtake agreements in place between the parties.
 2: Piedmont’s potential lithium hydroxide production assuming spodumene concentrate is converted via the Metso-Outotec process at ratios consistent with the Carolina Lithium Scoping Update.

CATALYSTS TO DRIVE SHAREHOLDER VALUE

REMAINING MILESTONES FOR 2021

Carolina Lithium

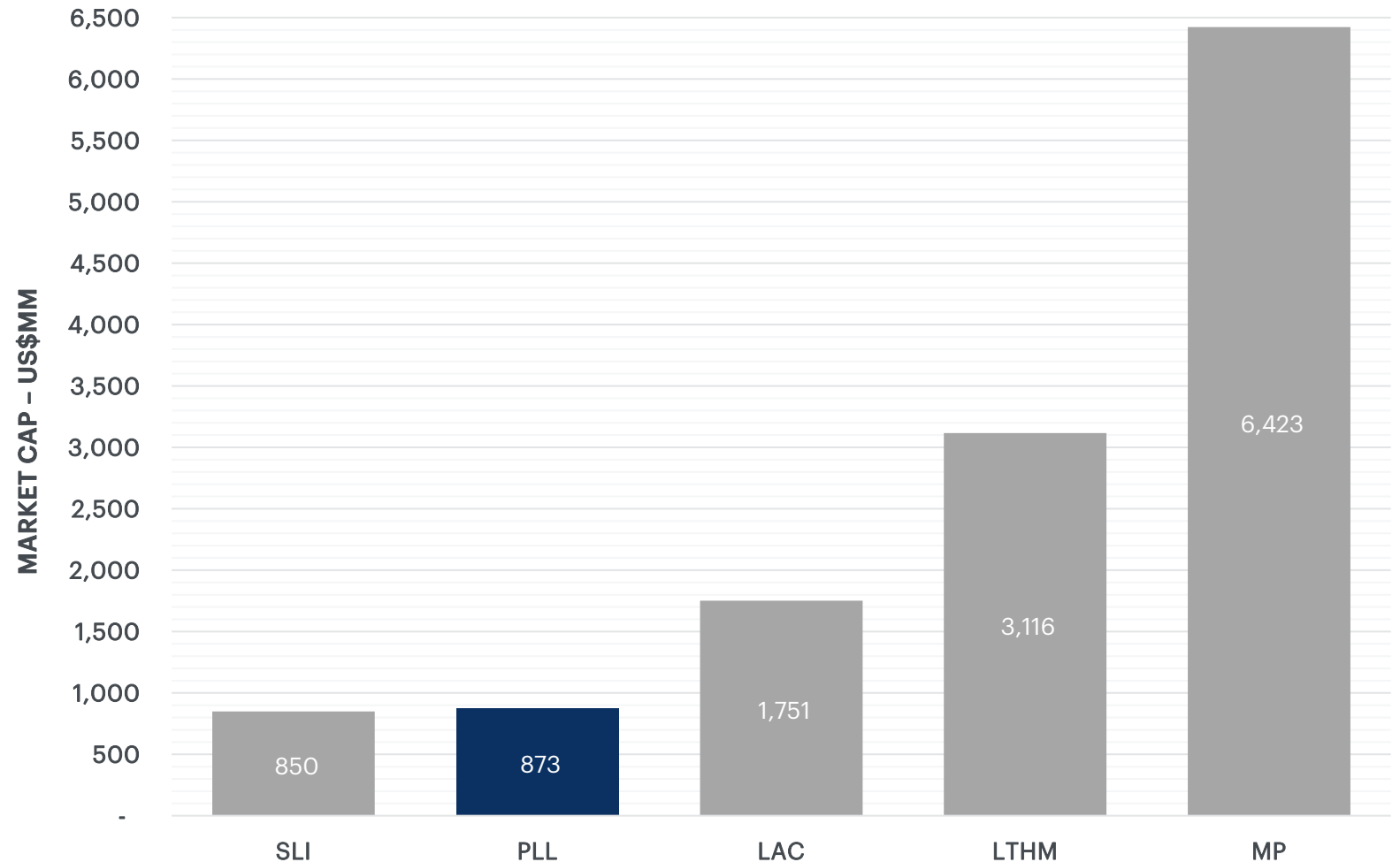
- State mining permit application
- Community engagement
- Definitive feasibility study
- ATVM loan application
- Strategic partnering process

Sayona Quebec

- Complete NAL acquisition
- Integrated SC6 scoping study
- LiOH site selection and scoping study

Ghana / Ewoyaa

- Complete definitive documentation
- Resource and scoping update
- LiOH site selection and scoping study



Market caps as of July 30, 2021

WHY PIEDMONT?

The Industry's Premier Lithium Development Company

Large Addressable Market

- Total Addressable Market for lithium expected to exceed \$50 billion for EV applications by 2030¹
- EV penetration expected to grow 10x from ~4% in 2020 to over ~40% by 2030
- Grid storage market may potentially be larger than EVs in the long term

The Right Lithium Materials

- Production of lithium hydroxide ("LiOH") from spodumene concentrate ("SC6")
- LiOH required in the long-range batteries needed by major OEMs
- SC6 is the preferred feedstock for cost, sustainability and scalability

Three Strategic Spodumene Resources

- North Carolina offers exceptional infrastructure, talent and low operating costs
- Sayona / NAL investment in Quebec capitalizes on low-cost, sustainable hydroelectricity
- IronRidge investment provides additional high-quality SC6 to support North American LiOH production

Growth Pipeline with Attractive Economics

- Large spodumene resource base underpins potential growth in lithium hydroxide production
- \$1.9 billion NPV for Carolina Lithium; low capex expected in Quebec (brownfield) and Ghana (DMS)
- Economies of scale should be available with additional trains at core LiOH sites

Sustainable Business Model

- Targeting low carbon, water and land footprint relative to other conventional lithium projects
- Expect to utilize renewable solar power in North Carolina and hydroelectric in Quebec and Ghana
- Fully-integrated LiOH manufacturing and by-product credits drive low-cost position

Proven Leadership Team

- Operational team with large company mining and specialty chemicals experience
- Experienced people in all senior staff functions
- Senior leadership focused on driving shareholder value in a responsible way

LiOH

PIEDMONT
LITHIUM

LITHIUM – MADE IN THE USA

Powering America's Clean Energy Transition

August 2021

Keith D. Phillips – President and CEO

+1 973 809 0505

kphillips@pedmontlithium.com

Head Office | 32 N Main Street | Suite 100 | Belmont, NC 28012 | USA

Exploration Office | 5706 Dallas-Cherryville Hwy. 279 | Bessemer City | NC 28016 | USA

Australia Office | 28 The Esplanade | 9th Floor | Perth | WA 6000 | Australia

 Nasdaq:PLL

 ASX:PLL

ARBN 647 286 360

www.piedmontlithium.com